AMENDMENT TO THE CLAIMS:

Claim 1 (Currently Amended) A method of producing a cloned pig expressing a green fluorescent protein gene, comprising the steps of:

(a) preparing a nuclear donor cell by culturing a cell line collected from a pig;

(b) mixing ~~pEFGP-N1~~ pEGFP-N1and a lipid component or non-lipid cationic polymer vehicle to form lipid (or cationic polymer)-DNA complexes, and adding the resulting complexes to a culture medium of the nuclear donor cell and further culturing the nuclear donor cell to introduce said GFP gene thereinto and express said GFP gene therein;

(c) transferring the transfected nuclear donor cell into an enucleated pig recipient oocyte to generate a transgenic nuclear transfer embryo, and activating said nuclear transfer embryo; and

(d) transplanting the nuclear transfer embryo into a surrogate mother pig to produce live offspring.

Claim 2 (Original) The method as set forth in claim 1, wherein the lipid component at the step (b) is FuGENE 6 or LipofectAminePlus.

Claim 3 (Original) The method as set forth in claim 1, wherein the non-lipid cationic polymer is ExGen 500.

Claim 4 (Original) A porcine nuclear transfer embryo "SNU-P1 [Porcine NT Embryo]", which is prepared according to the steps (a) to (c) of claim 1, and deposited at KCTC (Korean Collection for Type Cultures) under accesssion number KCTC 10145BP.

Claim 5 (Currently Amended) A cloned pig expressing a green fluorescent protein gene, which is produced from the porcine nuclear transfer embryo "SNU-P1 [Porcine NT Embryo]" of claim 4 by transplanting the nuclear transfer embryo into a surrogate mother pig to produce live offspring ~~claim 6 by performing the step (d) of claim1~~.

Claim 6 (Original) A method of producing a cloned pig having an alpha-1,3-galactosyltransferase gene knocked out, comprising the steps of:

(a) preparing a nuclear donor cell by culturing a somatic cell line collected from a pig;

(b) isolating an alpha-1,3-galactosyltransferase (GT) gene clone from a pig genomic BAC library, and constructing a gene targeting vector using the isolated GT gene, wherein the vector carries a GT gene modified by substituting a portion of a wild-type GT gene with a gene encoding a selectable marker by homologous recombination to suppress expression of a normal GT protein;

(c) mixing the vector with a lipid or non-lipid component to form lipid (or non-lipid)-DNA complexes, and adding the resulting complexes to a culture medium of the nuclear donor cell to allow gene targeting by introducing the recombinant GT gene into the nuclear donor cell;

(d) transferring the nuclear donor cells transfected with the recombinant GT gene into an enucleated pig recipient oocyte to generate a transgenic nuclear transfer embryo, and activating the nuclear transfer embryo; and

(e) transplanting the nuclear transfer embryo into a surrogate mother pig to produce live offspring.

Claim 7 (Original) The method as set forth in claim 6, wherein the cell line collected from the pig at the step (a) is a fetal fibroblast cell.

Claim 8 (Original) The method as set forth in claim 6, wherein the gene targeting vector at the step (b) is constructed not to have an exogenous promoter by a promoter trap method.

Claim 9 (Original) The method as set forth in claim 6, wherein the gene targeting vector at the step (b) comprises a nucleic acid sequence corresponding to a part of intron 8, exon 9 and a part of intron 9 of a GT gene, wherein an AvaI-DraIII fragment of said exon 9 is substituted with a nucleic acid sequence encoding a puromycin-resistant gene linked to a SV 40 poly(A) sequence.

Claim 10 (Original) The method as set forth in claim 6, wherein the lipid component at the step (c) is FuGENE6.

Claim 11 (Original) A porcine nuclear transfer embryo "SNU-P2 [Porcine NT Embryo]", which is prepared according to the steps (a) to (d) of claim 6, and deposited KCTC (Korean Collection for Type Cultures) under accesssion number KCTC 10146BP.

Claim 12 (Currently Amended) A cloned pig having an alpha-1,3-galactosyltransferase gene knocked out, which is produced from the porcine nuclear transfer embryo "SNU-P2 [Porcine NT Embryo]" of claim 11 by transplanting the nuclear transfer embryo into a surrogate mother pig to produce live offspring ~~performing the step (c) of claim 6~~.

Claim 13 (Original) A vector carrying a nucleic acid sequence corresponding to a part of intron 8, exon 9 and a part of intron 9 of a GT gene, wherein an AvaI-DraIII fragment of said exon 9 is substituted with a nucleic acid sequence encoding a puromycin-resistant gene linked to a SV 40 poly(A) sequence.